TRAFFIC RECORDS

I. PROGRAM OVERVIEW

Traffic record systems include the data elements necessary for problem identification, problem analysis, and countermeasure evaluation in all areas of traffic safety. Traffic record programs include data related to collisions and to every aspect of the program infrastructure. Data pertaining to people, vehicles, and roadways are all part of the total traffic records network.

The most common theme of the total records program is the Statewide Integrated Traffic Records System (SWITRS). Installed at California Highway Patrol (CHP) in 1974, the SWITRS provides collision-related reports to state and local agencies. Since SWITRS inception, there have been major advances in computing capabilities, rendering certain features of the SWITRS system cumbersome, time-consuming, and labor intensive. The cost and the impact of changing to an on-line system are presently being studied and system re-development is in progress.

The Traffic Accident Surveillance and Analysis System (TASAS), maintained by Caltrans, is the repository of all crash data pertaining to state and interstate highways, and includes detailed data on the location and types of roadways, as well as collisions occurring on these highways. TASAS does not include local (city or county) streets or roadway data.

Department of Motor Vehicles (DMV) maintains a large statewide computer network to record all registered motor vehicles and licensed drivers (and some unlicensed). The system generates a transcript for <u>every</u> person cited or arrested for a traffic violation who is subsequently convicted, or who defaults on bail and is forwarded by the courts to DMV. The resulting transcript becomes the basis for an entry into the Automated Management Information System (AMIS), even if the person arrested is not a licensed driver. If a citation is issued or an arrest is made in connection with a collision, the record of a collision involving a specific driver will be included in the file.

Advances in computer technology have enabled the DMV to establish a direct electronic link to nearly all of the municipal courts within the State. By means of this linkage, nearly all traffic court judges have access to complete and current driver histories, thereby making the penalties imposed by the court more in keeping with the actual and current driving record of the individual. DMV continues to expand this capability and is placing as many courts as possible on-line.

The Department of Justice (DOJ) system maintains a record of arrests made within the state, including the final disposition of each case. This record system shows all arrests, regardless of traffic involvement, and identifies specific vehicle code violations.

The Emergency Medical Services Authority (EMSA) has installed a statewide database of emergency medical conditions, including response times to collisions and subsequent treatment of collision victims. In the EMS system, all regional trauma systems store and retrieve medical data, with a certain mandated core data transmitted to the EMSA system. EMSA is trying to establish the means and methodology to track specific individuals from the collision to the emergency responder to the hospital and finally to hospital discharge. EMS linkage is necessary for the sensitivity index computation, and provides traffic engineers and traffic law enforcement personnel invaluable information on morbidity and mortality rates.

All cities and counties maintain traffic-related records, including data on local roadways. Many agencies report optimal effectiveness can be achieved by maintaining a local system that includes many of the same data elements contained in the statewide systems. A local system includes collision records, records of arrests and citations, and crash data on local streets and roads.

The geographic size of California and its large population makes the complete centralization of traffic records somewhat cumbersome and impractical. Therefore, various aspects of traffic records are delivered by a variety of responsible agencies. Consequently, it is more appropriate to refer to a traffic record network rather than a traffic record system.

Local agencies in California have identified specific difficulties in using SWITRS, primarily the time lag in receiving reports and the inconsistencies in the identification of local street names. For smaller cities, these problems do not represent major obstacles; but larger communities require an automated collision system to provide in part, a more timely record and a more accurate identification of crashes.

The Office of Traffic Safety (OTS) will continue to address the need for local systems by continuing to provide hardware and software to local grantees that are compatible with SWITRS. Many local agencies are implementing, or exploring the feasibility of implementing local Geographic Information System (GIS) based traffic record systems.

II. ACTION PLANS

OTS continues to implement the recommendations of the 1993 Traffic Records Assessment and is scheduled for a new Traffic Records Assessment in September 2005. A variety of state and local agencies continue to work toward improving traffic record collection within the State of California. The “Traffic Records Council” was formed as recommended by a traffic record assessment team. The initial work plan was designed around the recommendations of that team. All major state departments producing traffic-related data are represented on the “council,” including OTS. The Traffic Records Assessment team and the Traffic Records Council have not met formally for a number of years. Consequently, OTS plans to reconvene these organizations for the purpose of measuring progress and developing new goals.

OTS remains committed to providing funds to agencies on both the city and county level to purchase fully automated collision and citation records and analysis systems. OTS is confident that once implemented these systems will decrease the agency resources needed to maintain collision and citation statistical data. These systems are also expected to reduce the frequency and possibly the severity of traffic collisions in each jurisdiction where the systems are implemented.

OTS strongly recommends that both engineering and enforcement agencies become involved in system selection, deployment and data sharing. This cooperative approach results in economies of scale (time and capital) to each of the agencies due to the system licensing and compatibility between the agencies. The GIS based collision and citation analysis program will allow agencies to conserve resources while at the same time provide transportation engineers, public safety officers, department managers and enforcement agencies with timely, accurate and useable information upon which to base engineering, enforcement and other traffic related safety decisions.

III. TASKS

TASK 1 - PROGRAM DEVELOPMENT AND ADMINISTRATIVE COORDINATION

This task provides for the necessary staff time and expenses incurred by OTS that are directly related to the planning, development, coordination, monitoring, auditing, and evaluation of grants within this program area, and the preparation of the 2005 Highway Safety Plan. This plan includes grants that will be continued from prior fiscal years. Funding is also provided in this task for the printing of brochures and pamphlets, distributing literature and media materials developed through successful grants, or obtained from other sources. Assistance is also provided under this task to individuals to attend and participate in technology transfer workshops, training sessions, or educational meetings or conferences.

TASK 2 - DATA RECORDS DESIGN AND IMPLEMENTATION

Grants funded in this task provide the databases and data record design by which local agencies can supplement existing collision record programs with needed roadway data. Seventeen grants have been identified in the California State Traffic Safety Information Systems Strategic Plan developed by the California Traffic Records Coordinating Committee. These grants will be reviewed for inclusion within this plan upon approval of the corresponding 408 funds.

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TR0705 - UNIVERSITY OF CALIFORNIA, BERKELEY
GIS MAPPING FOR SWITRS GEOCODING
The University of California, Berkeley will develop and implement a customized GIS mapping program for SWITRS geocoding. The grant objectives are to: 1. develop the program; 2. develop and test validation procedures; 3. develop training; and 4. disseminate program and training. The proposed program will fulfill the following objectives: (1) develop custom functions specific to collision data; (2) incorporate additional supporting data, customization, and tiered geocoding; (3) automate the process and include an interactive option; (4) provide a user-friendly interface; and (5) provide the option to build a dictionary of the common crash location errors and automatically correct them. ($98,728)

TR0508 - WATSONVILLE
SANTA CRUZ METRO POLICE DEPARTMENT'S HAND-HELD CITATION, COLLISION, DUI REPORT WRITING PROJECT
A multi-jurisdictional traffic safety effort will be utilized by the four local police agencies in Santa Cruz County to efficiently report collisions, DUI, and citation information; analyze high collision locations and correlate these statistics to increase enforcement activity, establish traffic controls at key critical intersections, and improve safety. The objective is to reduce officer time in traffic reporting through the implementation of in-field electronic hand-held devices, integrated with software that supports data importation, report generation, and analysis. Secondly, the grant seeks to reduce staff time processing traffic citations, meeting the California Superior Court electronic file standards, and creating a graphics interface for data importation. ($0)

TASK 3 - COMPREHENSIVE DATA SYSTEM DESIGN AND IMPLEMENTATION

Grants funded in this task include activities that are broadly based and encompass records systems that include law enforcement, collision investigation, traffic engineering, adjudication, and emergency medical services. It is within this task that comprehensive systems, such as GIS are funded.

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TR0604 - GOLETA
AUTOMATED COLLISION ANALYSIS AND TRACKING
The City of Goleta will continue to implement an automated collision and tracking program with GIS capabilities for the Traffic Engineering/Community Services Department and the Police Department. This system will allow for a cooperative traffic safety effort by the Goleta Community Services Department and the Goleta Police Department. The program will provide both departments with the ability to efficiently pinpoint high collision locations and correlate these statistics to enforcement activity, traffic controls, or needed safety improvements. The program will be used to identify and evaluate the top ten high collision rate locations in the city. ($1,000)

TR0605 - CALIFORNIA HIGHWAY PATROL
INTERNET STATEWIDE INTEGRATED TRAFFIC RECORDS SYSTEM (I-SWITRS)
This grant makes SWITRS available to allied agencies and CHP users via the Internet. Purchasing software licenses on a metric called a processor license will allow one unit of the license to deploy the software onto one hardware processor with no restriction on the number of users. Doing so will allow hundreds of users to use the software, thereby giving allied agencies and all of CHP access to SWITRS data on the Internet. ($138,115)

TR0606 - AMADOR COUNTY
GIS - ROADWAY SAFETY PROJECT
This grant will provide for Amador County to refine its GIS collision database program to more accurately identify, analyze, investigate and determine options to mitigate critical collision locations. The addition of a TCDI module will allow a sign tracking inventory, maintenance and replacement logging and assist in compliance with newly mandated Federal and State standards. ($6,100)

TR0607 - SAN LUIS OBISPO
AUTOMATED COLLISION ANALYSIS AND TRACKING SYSTEM
The City of San Luis Obispo proposes to improve the efficiency and accuracy of collecting, identifying and analyzing collision reports, citations and high collision locations in the city. This will be accomplished by purchasing and installing computerized field data collection devices, integrating information system processing and upgrading the current collision database software. ($21,500)

TR0608 - CALIFORNIA HIGHWAY PATROL
GEOGRAPHICAL INFORMATION SYSTEM FOR SWITRS GIS-SWITRS
This grant introduces GIS mapping capabilities to the CHP's Statewide Integrated Traffic Record System (SWITRS) at the same time another grant facilitates introduction of SWITRS to the Internet. The ability to map and geographically visualize the statistical data currently available through the ad-hoc reporting capability will enable CHP's eight field divisions to further and more effectively assess enforcement deployment decisions that are unique or specific to the physical components of the communities within their areas of jurisdiction. ($29,000)

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TR0701 - YOLO COUNTY
GIS-SWITRS COLLISION MAPPING AND ANALYSIS SYSTEM
Yolo County proposes to improve the efficiency and accuracy of identifying and analyzing critical collision locations within the county. The County will purchase and install a software system that combines traffic collision records collected by the California Highway Patrols SWITRS branch with GIS mapping technology. This system will quickly produce detailed graphical reports and accurate analyzes of data to point out trouble spots within the County's transportation network. ($59,750)

TR0702 - TEHAMA COUNTY
GIS TRAFFIC CONTROL DEVICE INVENTORY SYSTEM
Tehama County Public Works Department maintains a GIS that includes collision software allowing engineers to map trends of collisions. Evaluating trends on a case by case basis involves studying the functionality of the roadway and control devices (if any). The County currently maintains 5,133 traffic control devices in a database that lacks spatial coordinates and reflectivity. This grant will install a Traffic Control Device Inventory, collect the data for display on GIS maps, and create a system to maintain, evaluate, replace, and install traffic control devices. In addition, this grant will allow the Public Works Department to further analyze collisions based on traffic control devices deficiencies. ($36,500)

TR0704 - MARIN COUNTY
AUTOMATED GIS-BASED TRAFFIC COLLISION ANALYSIS AND TRACKING SYSTEM
Marin County proposes to replace traditional collision reporting, analysis, and tracking and to improve both the accuracy and the efficiency of collision reporting and analysis throughout the county. Both goals will be accomplished by purchasing and installing an electronic, automated, GIS-based traffic collision and analysis system. This system will allow Marin County to collect, store, manage, and analyze collision data more efficiently and to provide information that will help in traffic safety. ($34,000)

TASK 4 - HIGH RISK DRIVER IDENTIFICATION DATA CAPTURE IMPROVEMENT GRANTS

Grants funded under this task are primarily concerned with developing the methodology to correctly identify high-risk drivers and the subsequent development of software to allow for the tracking of the identified high-risk drivers.

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TR0302 - CALIFORNIA DEPARTMENT OF MOTOR VEHICLES
DEVELOPMENT OF A LONG RANGE STRATEGY AND PROCUREMENT OF A BIOMETRICS VERIFICATION SYSTEM
Initiated in fiscal year 2004, the grant will continue into fiscal year 2007. The grant provides funds for consultant services to advise DMV how to implement a Biometrics Verification System (BVS). The design will ensure that one person has only one driver's license or identification (DL/ID) number and one DL/ID number belongs to only one person. The consultant will include developing the requirements necessary to secure a contractor to develop the BVS, and to develop a plan on cleansing the 80+ million images contained in the image database. ($461,750)

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TR0601 - SOUTH LAKE TAHOE POLICE DEPARTMENT
HANDHELD CITATION/DUI REPORTING SYSTEM
This grant provides the city of South Lake Tahoe with funds to purchase eight handheld traffic reporting software and equipment systems, which will automate the traffic citation process. This system will help the officers incorporate DUI investigations by giving the officers the ability to record standardized field sobriety tests in the field and complies with NHTSA standards. The use of this system will expedite the traffic stop process allowing for less time report writing and more time actively patrolling our neighborhoods looking for violations. ($0)

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TR0703 – CALIFORNIA DEPARTMENT OF MOTOR VEHICLES
A PILOT STUDY OF THE TRAFFIC SAFETY EFFECT OF THE THREE-TIER ASSESSMENT SYSTEM
The three-tier assessment system will assess driving-relevant abilities of functionally limited drivers by using novel licensing tests in addition to the standard ones and administer educational interventions, designed to enhance appropriate compensation, to functionally limited drivers on the basis of their test performance. The three-tier assessment system will address the aging driving populations the overwhelming number of drivers with limitations, and therefore, assessed by this system, will be 70 years of age and older. The proposed grant will determine the operational feasibility and overall traffic-safety effect of the three-tier assessment system. ($1,050,667)